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The Observations of the Ancients concerning the Obliquity of the Zodiac, in a Letter of Mr. Edward Bernard to Mr. John Flamsteed Math. Reg.

De Obliquitate Zodiaci, Scriptores Græci.

Hanc reperit Eratosthenes, ante natum Christum an. 230. Grad. 23. atque insuper $51'. 19''. 31'''. 5''$.

Distantia enim tropicorum ipsi fuit $\frac{11}{8}$ circuli Meridiani sive 47. gr. $\frac{5}{8}$. Ptol. *μεγ. συντ.* p. 18. 21. Quare *λίσσις* Eratosthenica minor erat Ptolemaica tantum $\frac{2}{3}$ unius minuti secundi, re sane contemnenda.

Eratosthenes apud Cleomedem, Ricciolo eruente, (supra grad. 23.) $46'. 00''$.

Eratosthenes à Ricciolo quasi correctus. $31'. 5''$.

Hipparchus (ante Christ. 140.) Eratosthenicam retinuit. Ptol. *συντ. μεγ.* p. 18. & p. 60. Theonis, *ὡς ἀκριβῶς εἰλημμένον.* $51'. 19''. 31'''. 5''$.

Tabulæ tamen Chovaresmicæ, conditæ post Christ. 830. exhibent Canonicam *λίσσιν* Alexandrinorum, juxta MS. Lat. D. Hattoni $51'. 00''$.

Pytheas Massiliensis, ante Christ. 324. Ricciolo. $52'. 41''$.

Aristarchus ante Christ. 280. Illustri Savilio supputante, $51'. 20''$.

Aristarchus, ex ratiocinio Riccioli $30'. 00''$.

Strabo Geographus, pag 93. post Christ. 30. $\frac{4}{5}$ Circuli, sive præter gradus 23. adhuc unius, sive $60'. 00''. 00'''$.

Nec aliter Geminus (tempore Christi) Cap. IV. Element. Astron. Et Tatius c. 26. atque Proclus de Sphæra. Indique, sive Astrologi, apud Noddamum Arabem, Abrahamum Abeneîdrum, &c.

Noddamus Astronomus, qui floruit circa an. Domini 1200. notat *λίσσιν* neque observatam unquam maiorem gr. 24. neque minorem 23, 33': continuo tamen decrevisse.

Cl. Ptolemæus post Christ. 140. sæpius expertus & Crico suo & Plinthide, semper reperit proxime eandem cum Eratosthenica; $51'.20''.00''$.

Distantia enim Tropicorum versabatur inter $47\frac{2}{3}$ & $47\frac{3}{4}$. Sed elegit pro Selidio suo $47, 42', 40'$. $\mu\upsilon\tau. \mu. p. 18, 20, 21.$ & p. 27. capit pene medium, $\mu\upsilon\tau. \kappa\gamma. \nu\alpha'. \kappa''.$ $\epsilon\gamma\lambda\iota\sigma\alpha$. Nec aliter in Hypothesibus Planetarum. Theo vero in Canonibus $\mu\upsilon\tau. \epsilon\iota\sigma\iota\sigma\iota\varsigma$ facilitatis causa præterit minuta secunda. Fallitur autem Ricciolus, dum ex Climate Rhodi colligit $\lambda\omicron\zeta\omega\sigma\iota\omega\varsigma$ modum pro Ptolemæo $23, 30', 00''$.

Pappus Alexandrinus (post Christ. 390.) l. 6. Theor. $35'$, Ricciolo $30'. 00''. 00''$.

Pappus, Fr. Commandino colligente $50'. 00''. 00''$.

Theo (post Christ. 370) pag. 88. accuratius $51'.20''.00''$.

A'ibi numero rotundo, ut p. 57. & passim in Canonibus suis $\mu\upsilon\tau. \epsilon\iota\sigma\iota\sigma\iota\varsigma$ nondum vulgatis $51'.00''.00''$.

Arabes Persæque.

Almamon Princeps, A. Christi 825. Hegiræ 210. 23. 35'. Grav. p. 44. ex Ebn-Shatir Damasceno MS. Seld. adfidentibus ei plurimis Astronomis. Ita etiam refert Abenesdras MS. Lat. in Archivis Digbeanis. Insuper Astronomus incertus in Arch. Seld. affirmat Iahia Ebn Abimanfur cum multis aliis Philosophis, tempore Almamonis, $\lambda\omicron\zeta\omega\sigma\iota\omega\varsigma$ experimento $\mu\upsilon\tau. \epsilon\iota\sigma\iota\sigma\iota\varsigma$ deprehendisse: $23, 35'$.

Idem tradit de observatis Almamonis Doctissimus AlNoddam in commentariis suis ad Astronomica Holein Nisaburiensis. Imo addit ille eodem ævo sæpius observasse Beni Musa modum eundem gr. $23, 35'$. Bagdadi in campis. MS. Arab. Coll. S. Johan. Oxon. Hunc etiam placuisse plerisque sequentium Astronomorum. Sane in eo quiescit Alferganus Astron. suæ. c. 5.

Mohammed Ebn Gaber AlBatanius, (Al Bategnius,) Raccæ.

Raccæ. Ricciolo A. D. 880. Ill. Savilio 890. Gravio p. 44. 882. Hegiræ 269. Obiit ille Hegiræ 317, A. D. 929. Abolfaragi Hist. p. 191. 35'. 00'.

AlBatanius hac in re suas *τιρήσεις* præferre non dubitat Ptolemæi dictis, c. 4. aitque se adjutum longissima Alhidada, seu Regula Parallactica ad formam Ptolemaicarum, cum cura & assiduitate reperisse apud Raccam tropicorum distantiam, 47, 10'. (hoc est, 59, 36' minus 12, 26'.) atque adeo Latitudinem Raccæ 35. gr. quam tamen Ulocbegus statuit 36. 10'. Schickardus apud Curtium (p. 33.) & Ricciolus gr. 36.

Thabet Ebn Corra (Ricciolo A. D. 1210. rectius 901. Hegiræ 289.) reperit *λξωσιν*. 33', 30'.

AbulHosein Ebn Suphi. 35'. 00'.

AbulWafi AlBuziani, & Abn Hamed Saganienfis, vir ingeniosissimus, (A. D. 987. Heg. 377.) Bagdadi repererunt *λξωσιν* tantum non 35'.

Ita & auctor *مسجد*, Persa in Arch. Seld. 35'.

Tabulæ itidem Persicæ Chryfococæ 35.

AlBatrunius AbulRihan (A. D. 995. Hegiræ 385. Abolfaragius hunc ponit ad Hegiræ 463. seu A. D. 1070.) usus quadrante, cui radius xv. cubitorum Grav. p. 44. ex Cod. Arab. Birunii. 35'.

Verum Abu Jaafer Alchazan, cum socio suo Abufadlo Harwanensi apud Edeffam, & istius ævi alii (A. D. 970.) observarunt *λξωσιν* ad 23, 35'. plane non accessisse, sed paulo fuisse minorem.

Almæon F. Almanforis (A. D. 1140 Ricc.) 33, 30', at ille Clavio & Mæstlino 33'.

Ismael Abulfeda princeps Hamæ (A. D. 1311. Hegiræ 711.) in tabulis suis MS. Arab. Coll. S. Joan. retinet forte ob Almamonis auctoritatem 35' 00'.

Prophatius Judæus (A. D. 1300. Ricc. 1303. Mæstlino apud Curtium p. 40. 230. annis post Arzachelem, inquit Copernicus.) & Ricciolo, & MS. Coll. Merton. 32. 00.

Abu Mahmud AlChogandi (A. D. 992. Hegiræ 382.) tempore Fecrôddaulæ, sextante cujus radius erat cubitorum XL. limbusque in minuta secunda distinctus, invenerat $\lambda\omicron\xi\omega\sigma\iota\nu$ minorem quam unquam captaverat aliquis majorum suorum, nimirum $32', 21''$.

Hinc Noddamus Astronomus adfirmat (MS. Coll. Joan.) solis declinationem maximam vix unquam minorem fuisse repertam. $23. \& 33'$.

Arzachel Hispanus (Gravio p. 44. A. D. 1089. Hegiræ 482. Ricciolo 1070. Mæstlino apud Curtium p. 35. 1075. Copernico l. 3. c. 6. annis 190. post Al Batanium) proposuit $\lambda\omicron\xi\omega\sigma\iota\nu$. $23. \& 33'. 30''$. Ita MS. Coll. Mert. Ox. ubi dicitur differentia $17', 30''$, intercedere inter $\lambda\omicron\xi\omega\sigma\iota\nu$ Ptolemæi & Arzachelis.

Apud Maragam Nobilissimus Persæ Chojah Nasiroddinus Tusensis anno Domini 1269. Hegiræ 668. (at Gravio p. 44. 1261. Hegiræ 660.) accuratissime observavit $\lambda\omicron\xi\omega\sigma\iota\nu$ $23. \& 30'. 00'$.

Hæc est minima ex maximis solis declinationibus, quæ ad hunc usque diem reperta fuit, ait Doctiss. Commentator ad Astronomica Hosein Nisaburiensis.

Ebn Shatir Damascenus MS. Seld. A. D. 1363. ait se emendasse $\lambda\omicron\xi\omega\sigma\iota\nu$, non neglecta solis parallaxi, quæ horizontalis capta est gr. 2. 59. Huic solis max. declin. $23. \& 31'. 00$.

Olocbegus Princeps A. D. 1437. Hegiræ 841. cum Aly Cushgio aliisque Astronomis, usus summa cura, & maximis instrumentis, (vide Gravium p. 44.) reperit $\lambda\omicron\xi\omega\sigma\iota\nu$. $23. \& 30'. 17''$. Ita MSS. Coll. D. Joan. & Bibliothecæ Savilianæ. Nam MS. Seld. exhibet $23. 30' 27''$.

Rabbi Moyfes ben Maimon Judæorum doctissimus ait in *Jad. de Consecratione Calendarum* c. ult. §. 4. maximam Zodiaci obliquitatem fuisse A. D. 1174. $23. \text{ gr. } \& 30. \epsilon\gamma\gamma\iota\sigma\alpha$.

Josephus vetat, mi Frater, ne quid amplius ad te scribam hac de re. Scias tamen vix dimidiam partem Astronomorum,

Astronomorum Orientalium, quorum scripta hujus Academiæ Bibliothecis servantur, à me consultam fuisse. Oti-um aliud expecto. Valeto. Habent etiam Bibliothecæ Bodleiana, Mertonensis, Huntingtonia, illa Serenissimi Regis in Palatio Jacobæo, tum aliæ per Angliam; unde juvari delectarique potest vir de Cœlo bene meritus D. Streetius. Dolet me, quod nunc non vacat tam bono viro.

Oxon. Aug. 14. 1681.

De indole ac natura Cometarum ego plane *χαρδαίζω*: quod tamen cum laude aliter sentientium, cum tua maxime facio. Vale rursus mi amice, Ocelle Astronomiæ.

Hæc talia bis scribere non soleo. Servabis igitur penes te, non tam Uraniæ causa, quam mea.

Ex hisce autem Observatis aliisque quæ mecum adhuc cis vulgus servo, unam eandemque suspicor fuisse à primordio mundi *ἀβζων* Zodiacam. Æva enim recentia, quod vides, melioribus organis errorem excessumque veteris Astronomiæ probe correxerunt.